F. W. LYLE.

BASE FOR INCANDESCENT LAMPS.

APPLICATION FILED JULY 15, 1918.

1,429,602. Patented Sept. 19, 1922.

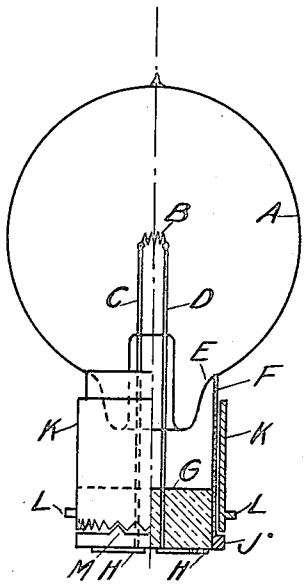


Fig. 1.

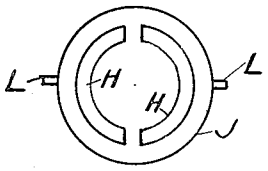


Fig 2.

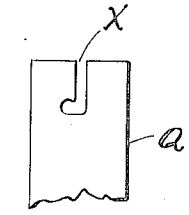


Fig. 6.

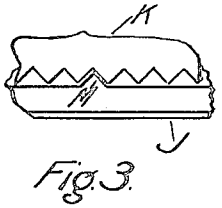


Fig. 3.

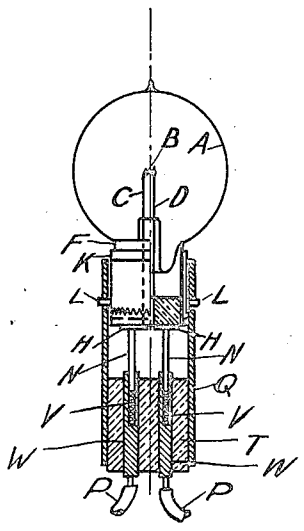


Fig. 4.

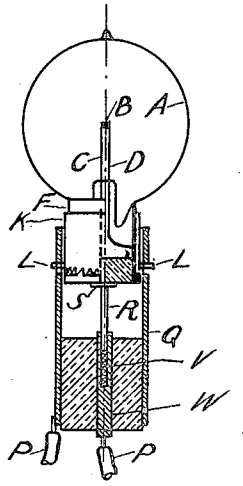


Fig. 5.

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By Attorney

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UNITED STATES PATENT OFFICE.

FREDERICK W. LYLE, OF TORONTO, ONTARIO, CANADA.

BASE FOR INCANDESCENT LAMPS.

Application filed July 15, 1918. Serial No. 245,049.

To all whom it may concern:

Be it known that I, FREDERICK W. LYLE, a citizen of the United States, residing at Toronto, in the county of York and Province of Ontario, in the Dominion of Canada, have invented a new and useful Base for Incandescent Lamps, of which the following is a specification.

My invention relates to improvements in lamp bases of the type generally known as "Ediswan" or "bayonet" and used on automobile and other lamps likely to be subjected to vibration and jarring. Such bases consist of a cylindrical metal shell into one end of which the neck of the lamp bulb is cemented and the other end of which is closed by a glass plug in which are set terminals into which the lead wires of the lamp are soldered. In use this cylindrical base fits inside a metal socket sleeve in the sides of which are cut longitudinal slots which engage pins projecting radially from the lamp base. Into notches in the sides of these slots the pins aforesaid are pushed and held by spring plungers carried in the socket base. These plungers also make contact with the terminal plates described above as set in the lamp base and thus carry current to the lamp filament. Now by reason of the fixed location of the recesses or slots in the socket wall and of the pins in the lamp base the position of the lamp bulb is fixed with regard to the socket and the structure which supports the latter. In the case of certain types of lamp, notably those in which portions of the bulb are silvered or etched, this feature is disadvantageous in that it is desirable to be able to turn the lamp inside the socket so as to bring the etched or silvered area all at one particular side of the socket and cut off light in the direction adjacent thereto. Thus for instance the spherical bulb of an automobile headlamp may be so etched that, when placed in position, it absorbs the light rays which would normally be projected forward and upward with the resultant production of offensive "glare." However, the position of the slots of the socket wall is a matter of chance since no care is usually taken in assembling the headlamp to give them any predetermined standard location. Therefore the precise position the bulb will have when in place, and so the exact portion of it to be etched, must be determined by trial in the particular socket in which it is to be used if glare is to be eliminated by its use. Such a necessity of individual trial and fitting is obviously an extreme disadvantage for practical purposes. It is the object of my invention to overcome this by providing such a base that a bulb already etched or silvered can be placed in any socket so as to have the desired location. The means by which this is accomplished will be evident from the following description taken in conjunction with the accompanying drawings.

Referring to the drawings Figure 1 shows a top view of a lamp and base, the axis of the base being considered as horizontal as generally used in service; part of the base is supposed to be cut away showing a section of its interior. Figure 2 shows an end view of the base giving the method of arranging the terminal plates by which current enters a so called "double contact" base. Figure 3 shows in enlarged size a detail of construction of the base. Figure 4 shows a section through a socket of the "double contact" type with the lamp in position. Figure 5 gives a similar view of a "single contact" socket. Figure 6 shows an outside view of a portion of the wall of the lamp socket and shows particularly the form of a slotted recess in the same.

Referring to Figure 1, the letter A denotes the lamp bulb of the usual type enclosing the filament B supported by the leads C and D sealed into the neck E. The letter F denotes a cylindrical metal collar into the forward end of which the neck E is cemented, and the other end of which is closed by the plug G of insulating material such as glass. In this insulating material are set two terminal plates H, H, shown more clearly in Figure 2, to which are soldered the leads C and D. This end of the cylinder F has a shoulder J encircling it the forward edge of which has one or more teeth, M, projecting from it. Enclosing the body of the cylinder F and sliding easily along and about it is a second cylindrical collar K of such outside diameter as to fit easily inside the socket for which the lamp base is designed. Projecting radially from the outer surface of K are pins L, L, adapted to engage in the slots in the wall of the ordinary Ediswan socket. Figures 4 and 5 show these pins L, L, so engaging the slots in the walls Q of such sockets. The adjacent edge of the collar K is indented with numerous teeth of such size and spacing that the projections

M of the cylinder F can engage with them when the collar K is pushed back upon the cylinder F away from the lamp bulb A. This is shown in more detail in Figure 3 which represents a developed view of a portion of the wall of the base. In Figure 3, K is a portion of the collar similarly lettered in Figure 1, J is the shoulder on the cylinder F and M is the projection above described on J. Projection M can thus engage with any one of the serrations in the edge of collar K when collar K has been properly turned about cylinder F.

Upon being placed in a lamp socket as illustrated for the case of a double contact base in Figure 4, the pins L, L, on the collar K are held fixed in position by recesses in the slots in the walls Q of the Ediswan socket. The pins L, L, take this position when the lamp is placed in the socket in a manner precisely similar to those of present Ediswan bases. The cylinder F, being free to move inside the collar K is pushed forward into K by the plungers N, N, which slide, under the action of springs V, V, within recesses in the ends of the plugs W, W, which are supported rigidly relative to the walls Q of the Ediswan socket by the insulating core T, and to which plugs W, W, the socket leads P, P, are connected. The projection M of the cylinder F is thus engaged with the toothed edge of the collar K and the latter held firmly in the socket by the seating under spring pressure of the pins L, L, in the slot recesses of the socket wall. Now to turn the lamp in the socket so as to bring the desired portion of the surface of the bulb uppermost, the lamp is pushed back against the pressure of the plungers N, N, sufficiently to disengage the projection M of the cylinder F from the toothed edge of collar K; the lamp is then turned inside the collar K to the desired position and allowed to spring back until M again seats itself in one of the serrations on the edge of collar K. The lamp is then held rigidly in this position under the pressure of the plungers N, N. The opaque portion of the lamp bulb can thus be located to cut off the light in any desired direction about the axis of the lamp, no matter what may have been the position of the slots of the socket wall, which was the desired result.

Current enters the lamp through the socket leads P, P, the plungers N, N, bearing on the terminal plates H, H. In order that this contact of plungers N, N, on plates H, H, shall take place at all positions of the lamp the plates H, H, are made to cover each nearly 180 degrees of circular arc. However in order that the plates H, H may never short circuit the two plungers N, N, thereby preventing the lamp from glowing, they are made to cover just enough less than a half circle so as not to reach from one plunger to the other. Figure 2 shows the arrangement of the terminal plates H, H, on the lamp base.

In the case of the single-contact base illustrated in Figure 5 there is only one terminal plate S which is at the center of the lamp base; the second lamp lead wire is soldered to the cylinder F forming the wall of the base. Current from the battery enters the socket wall Q from one lead P and flows through the pins L, L, to the collar K and from it by contact to the cylinder F to one lamp lead. It returns through the other lead to the terminal plate S, through the single plunger R reaching the other battery lead P. The single plunger R enacts precisely the rôle of the two plungers N, N, as above described in holding the lamp fixed in position, and as the placing and adjustment of the lamp in the socket are the same as that of the double contact base described no separate description for the single contact base is necessary. The single contact base differs from the double contact base only in having one circular contact terminal at the center of the end surface instead of the two plates shown in Figure 2 for the double contact base. Otherwise the two bases are exactly alike.

It will be evident that by making the teeth in the edge of the collar K sufficiently numerous and fine the precision with which the lamp may be set as to angular position about its axis may be made as high as desirable for the service required.

The form of the slotted recess in the socket wall referred to in the foregoing description is disclosed by Figure 6, in which Q denotes the socket wall, and X one of two similar slots located diametrically opposite each other in the socket wall. The slot X has a lateral enlargement at its inner end as shown, into which one of the lugs denoted by the letter L in the lamp base shown in Figure 1 may slide when the lamp is placed in the socket, and in which the lug L is locked by the springs denoted by the letters V in Figure 4 and Figure 5.

What I claim is—

1. In a support for incandescent lamps the combination of a cylindrical core attached to a lamp bulb and provided with a shoulder having a projection on its annular face, a sleeve adapted to revolve and slide on the cylindrical core and provided with indentations adapted to engage the projection on the cylindrical core, and further provided with radially projecting lugs, a socket into which the said sleeve is adapted to slide, recessed slots in the socket wall adapted to engage said radially projecting lugs, and a member actuated by springs in the socket structure adapted to press the said radially projecting lugs of the sleeve into engagement with the recessed slots of

the socket wall and to press the said projection on the cylindrical core into engagement with the indentations of the said sleeve.

2. The combination of an electric lamp bulb, a lamp base rigidly secured to the bulb, a socket, a rotatable sleeve on the base adapted to be secured in the socket and provided with radially projecting lugs, recessed slots in the socket wall adapted to engage said radially projecting lugs, and spring contacts in the socket adapted to lock the base to the sleeve and the sleeve to the socket.

3. The combination of a lamp provided with a base consisting of two members, one member fixed relative to the lamp bulb and provided with a projection on its annular face, and the other member movable relative to the lamp bulb and provided with serrations adapted to engage the said projection on the first member, and further provided with projecting lugs, with a socket structure recessed to engage said projecting lugs, and provided with a plunger actuated by a spring adapted to hold the said projection of the member first mentioned in engagement with the said serrations of the member mentioned second, and thereby to hold the said projecting lugs of the member mentioned second in engagement with the said recesses of the socket structure.

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Witnesses:
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